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Tenth progress report on the enterprise resource planning project

Report of the Secretary-General

Summary

The present report is submitted pursuant to General Assembly resolution 64/243, in which the Assembly requested the Secretary-General to provide annual updates on the progress of the enterprise resource planning project, Umoja. The report provides an update since the issuance of the ninth progress report (A/72/397) in September 2017.

The Umoja user base has expanded to 46,500 users across 420 locations. Umoja-related tickets (incidents) have been declining steadily. Phase 1 of the supply chain solution was implemented successfully in September 2017, followed by the completion of the final phase of the International Civil Service Commission compensation package changes in January 2018. The travel solution was deployed in June 2018 to support travel management for more than 120,000 new personnel in peacekeeping and special political missions. United Nations Development Programme-administered personnel from the Department of Public Information and the Department of Field Support were migrated successfully to Umoja in February, June and July 2018.

As a single, global solution, Umoja has replaced a variety of legacy systems, triggered end-to-end process management and enabled self-service and real-time visibility of global data and supports the Secretary-General's reform efforts.

Umoja Extension 2, comprising 41 per cent of Umoja processes, is being developed and deployed; its extensive functionality will support many of the reform initiatives. It will enable planning for, and reporting on, utilization of resources on the basis of results frameworks, including the Sustainable Development Goals, facilitate the management of donor relations, support resource mobilization efforts, streamline

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the management of implementing partners and of conferences and events, integrate end-to-end processes for paying troop- and police-contributing countries and enable better supply chain capabilities.

The present report also contains updates on benefit realization planning, total cost of ownership, the business readiness assessment, risk management and the reorganization of functions, and a request for the balance of the resources for the biennium 2018–2019 that were not approved in 2017.

The General Assembly is requested to take note of the progress of the project and to approve the balance of the resource requirements for 2018–2019 of $15,515,600, including the proposed reorganization of functions.

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I. Introduction

1. The present report is submitted pursuant to General Assembly resolution 64/243, in which the Assembly requested the Secretary-General to provide annual updates on the progress of the enterprise resource planning project, Umoja. It provides an update on the project since the issuance of the ninth progress report (A/72/397) and addresses the decisions of the Assembly in its resolution 72/262 A.

II. Project management, governance and oversight

A. Governance overview

2. Umoja continues to benefit from the strengthened governance model, first described in the fifth progress report (A/68/375 and A/68/375/Add.1). The Secretary-General remains a proactive champion of the project. The Management Committee, chaired by the Chef de Cabinet, reviews the project status periodically and provides guidance on strategic issues. The Umoja Steering Committee, chaired by the Under-Secretary-General for Management, meets regularly to oversee the strategic and operational management of the project. Heads of business units are actively engaged and reinforce the awareness and commitment of their departments and offices.

3. In its resolution 72/262 A, the General Assembly reiterated that the successful implementation of Umoja required the full support and commitment of senior management, as well as close and continuous engagement with key stakeholders, and requested the Secretary-General to ensure this through performance management and accountability mechanisms, especially at senior levels. This critical linkage between institutional accountability and individual accountability for supporting management reform, reflected in senior managers' compacts, includes responsibility for supporting Umoja deployment, post-implementation support and benefit realization. Senior managers play a key role in setting the tone for an "enterprise approach" and an openness to re-engineer their current processes and practices for the greater good of the Organization.

4. Within the project, the new pressures of concurrent work streams and a heavy portfolio of projects are being dealt with through strengthened project management; current and emerging risks are being proactively managed and budget discipline has been maintained.

B. Implementation of oversight bodies' recommendations

5. During the reporting period, the project was audited by both the Board of Auditors and the Office of Internal Oversight Services (OIOS). The Board of Auditors, in its seventh annual progress report on the implementation of the United Nations enterprise resource planning system (see A/73/169), observed that end-to-end process management is a significant change triggered by Umoja, and that with the impending stabilization of Umoja Extension 1 (UE1) and deployment of Umoja Extension 2 (UE2), there would likely be greater opportunities for realizing qualitative benefits in future. The Board expressed its appreciation for the trend of successive deployments with fewer problems compared with implementation of previous clusters and was of the view that lessons learned should be proactively applied to ensure success in the deployment of UE2. The Board also noted the risks and challenges ahead, including new functionalities, complex data conversions and significant change management, as well as the new requirements that management reform might introduce. Noting that some deployments might extend into 2019, the

Board underscored that business units must continue to take full and active ownership of Umoja and work closely and constructively with the process owners and the Umoja team to deliver the solution.

6. The Board has made 67 recommendations since the inception of the project. Of the 22 recommendations pending as at the end of 2017, 12 have been fully implemented, 3 have been overtaken by events and 7 are under implementation. In its seventh annual progress report, the Board made 28 recommendations covering, among other things, benefits realization, user access provisioning, continuous improvements and business intelligence, of which 18 have been implemented.

7. OIOS has conducted 21 audits and made 216 recommendations since the beginning of the project. The Office's recent audits have reflected a continuing emphasis on assessing the implementation and change management undertaken by implementing entities. Sixteen OIOS recommendations are outstanding, 10 of which are under implementation, and OIOS will be provided with evidence to support the closure of 6 recommendations.

III. Project status

A. Overview of project milestones and achievements

8. The Umoja solution is currently supporting over 46,500 users in 420 locations and has been operating without any disruptions. The major milestones for the project since its inception are presented in annex I. Progress from September 2017 to August 2018 is presented below.

9. In September 2017, the completion of the Galileo decommissioning project marked the successful adoption of phase 1 of the supply chain solution (inventory, warehouse, asset, equipment and property management) by the entire Secretariat. With the decommissioning of the Galileo system previously used by 32 peacekeeping and special political missions and service centres, the Organization moved to a single International Public Sector Accounting Standards-compliant financial system of record. The 2017 year-end closing and the financial reporting for special political missions were accomplished for the first time using Umoja as the sole system of record. For peacekeeping missions, the year-end closing and financial reporting for the financial year 2017/18 will mark a similar milestone.

10. The Galileo decommissioning project involved a large-scale data conversion and enrichment effort, comprising 376,209 equipment records, 64,246 fixed asset records and 340,011 lines of inventory records, with a collective value of approximately $3.5 billion; the Umoja system configuration was expanded by 13,792 functional location records, 44,989 warehouse elements and 16,825 permanent and 58,792 interim material master records. The project also provided a platform for rationalizing the asset and inventory holdings in peacekeeping and special political missions; 839 Galileo warehouses were rationalized to 108 warehouses in Umoja, and a parallel inventory cleanup project resulted in $82.8 million in inventory being written off or transferred back from inactive warehouses.

11. To sustain business readiness, 2,421 end users were trained and supported by a cadre of 190 local process expert trainers, who were developed by the Umoja Coordination Service of the Department of Field Support through five cycles of training. In addition, 32 service desk experts were trained and certified to provide production support for users.

12. A post-implementation survey of staff members impacted by the Galileo decommissioning project, conducted by the Umoja Coordination Service four months

after go-live, showed a high level of confidence in the business readiness support provided: 76 per cent of respondents reported advanced or intermediate knowledge of Umoja, 81 per cent were satisfied with the training and 80 per cent were satisfied with post-deployment support. The majority of users see value and benefits in moving to Umoja; the examples most often cited include improved reporting, real-time transactions, the interlinkage of processes and global visibility. The Service continues to assist business units to identify areas where support and improvement are needed.

13. The final phase of the International Civil Service Commission compensation package changes was implemented on 1 January 2018. It included the introduction of a new mandatory age of separation and the new education grant solution; the latter necessitated multiple iterations of testing and defect resolution with SAP to resolve all issues.

14. The review of the 2016 annual declaration on dependency status was successfully implemented in Umoja in February 2018; the lessons learned are being used to improve the upcoming 2017 declaration. System enhancements were also deployed to streamline the implementation of salary scale, dependency status and language allowance changes; this streamlining dramatically simplified the process and reduced the time taken to implement such changes in production.

15. In June 2018, the Umoja travel solution was deployed to all peacekeeping and special political missions to support travel management for more than 120,000 new personnel, that is, national staff, individual uniformed personnel, United Nations Volunteers, individual consultants and contractors and all other non-staff. Based on earlier lessons learned, the deployment emphasized building local capacity to sustain training and post-deployment support for the expanded user base; the Umoja Coordination Service trained 59 local process expert trainers, who in turn trained and supported 535 travel practitioners. The deployment included several system enhancements (new enterprise roles, the general ledger mapping and new travel types) to better address business requirements. Since go-live, 90 per cent of national staff travel requests and 65 per cent of in-mission non-commercial travel requests by international uniformed personnel have been raised using self-service, demonstrating a high degree of user adoption.

16. Real estate space management, for optimizing real estate utilization, was deployed at United Nations Headquarters, the United Nations Office at Geneva and the Economic Commission for Latin America and the Caribbean in June 2018, and at the United Nations Office at Vienna, the United Nations Office at Nairobi, the Economic Commission for Africa, the Economic and Social Commission for Asia and the Pacific and the Economic and Social Commission for Western Asia in September 2018. The solution covers 69 entities across 154 countries, with 1,300 active leases.

Unscheduled deployments

17. As a part of business model changes in the Department of Public Information, all United Nations Development Programme (UNDP)-administered staff in 45 United Nations information centres were migrated successfully to Umoja in two phases in February and July 2018, with savings in administrative fees, enhanced monitoring capability at Headquarters and consolidation of payroll services.

18. On 1 June 2018, all Department of Safety and Security field-based international staff on UNDP appointments were transitioned to Secretariat appointments and migrated to Umoja, bringing all Secretariat safety and security staff under a common legal and policy framework and forming an integrated security workforce as referenced in General Assembly resolutions 59/276 and 70/104 on the need for implementation of a unified and strengthened security management system. This has

vested greater oversight and management authority in the Department of Safety and Security over security in field missions.

19. The migration of UNDP-administered staff to Umoja for both the Department of Public Information and the Department of Safety and Security involved careful preparations and testing to ensure that their payroll payments were processed accurately and remitted to banks correctly. All three migrations have been trouble-free.

Umoja upgrade

20. The Umoja workplans for 2016–2018 included multiple software upgrades to ensure continued support for existing functionality and to facilitate the deployment of additional functionality for UE2. During 2018, Umoja hardware, comprising servers and storage, also had to be replaced as its useful life was ending and continued support was not practical.

21. New hardware was evaluated and procured by April 2018. Servers and storage needed urgently for some of the UE2 functionality were installed, as a priority, over multiple weekends in June and July 2018. More servers are planned to be installed in the fourth quarter of 2018 after factoring in various UE2 deployments.

22. Software upgrades have to be carefully sequenced to reduce risks and minimize operational impact. Every upgrade involves a complex process of updating software across multiple environments, such as development, quality assurance, training, pre-production and production. Production also has two environments: a primary environment in Valencia, Spain, and a disaster recovery environment in Brindisi, Italy. The software upgrade in each environment has to be meticulously planned, executed and documented, and disruption of UE2 development, testing and quality assurance has to be minimized. The upgrade of the production environment also entails reconfiguration of the disaster recovery arrangements.

23. Several new SAP software products were successfully installed across all the Umoja environments in preparation for the deployment of UE2. These include SAP Grantor Management, Portfolio and Project Management, Transportation Management, Event Management, Process Orchestration, Fiori Gateway and HANA 2.0.

24. Two major software products already in use — the supplier relationship management software and the employee and manager self-service portals — were also successfully upgraded in July 2018, ahead of the schedule outlined in the ninth progress report (September 2018), to mitigate risk to UE2 deployment. The two upgrades were the culmination of planning and testing over nearly nine months before the final, concurrent migration to production in Valencia and Brindisi. The supplier relationship management upgrade aligned the software with recent market versions, thereby optimizing stability and performance while introducing new features such as automatic completion of frequently used values, notification of reasons for shopping cart rejections, mass contract updates and integration with Excel for processing large documents.

25. To prevent adverse operational impact, the Umoja project implemented a 10-day period of post-upgrade "hypercare", engaging SAP technical and functional experts across two time zones to work with Umoja teams to monitor production systems and escalate identified issues for rapid resolution. During this hypercare period, approximately 7,980 shopping cart line items (with a total value of around $229 million) and 3,560 purchase orders (with a total value of around $340 million) were processed. The system has been functioning normally since the upgrade. The self-service portal upgrade, impacting around 46,500 users, has also been smooth.

26. Another important piece of software already in use, the Enterprise Core Component, has not been upgraded owing to the dependency on enhancements to be delivered by SAP for the special United Nations system version of the Human Capital Management module (for human resources, entitlements and time management, among other things). This upgrade is planned for 2019 or later, depending on the delivery of the enhancements and the schedule for UE2 deployments.

B. Business intelligence

27. The demand for business intelligence reports has been growing as users gain a better understanding of Umoja data and the capabilities of the system. Several concurrent actions have been taken over the past year, in collaboration with the Office of Information and Communications Technology, the Department of Field Support, the United Nations Office at Geneva and other stakeholders, to strengthen the capabilities for leveraging the rich information in Umoja for decision-making.

28. The hardware and software supporting business intelligence have been upgraded for multiple reasons: (a) UE2 needed additional capabilities; (b) the hardware upgrade would improve performance; and (c) the software upgrade would provide real-time data updates (eliminating a day's delay in refreshing data for reporting) as well as licences to publish data for external users, such as Member States or donors.

29. Prior to the upgrade, the entire architecture of the data warehouse supporting business intelligence was overhauled to accommodate paradigm shifts occurring with UE2 and to build new "semantic layers" (non-technical views of Umoja data to enable users to leverage data better for more sophisticated analysis and reporting) for each functional pillar and then across pillars. This re-architecting also enabled better management of the business intelligence environment, including the ability to delegate more capability, after proper certification, to business process experts to build such semantic layers or sophisticated reports on the basis of such views.

30. A management dashboard will be rolled out in 2018 in all departments and offices. This highly visual and interactive dashboard, built on a modern technology platform, leverages Umoja data along with data from other enterprise systems, such as Inspira, to provide managers with a comprehensive view of their human and financial resources, posts, travel, facilities, procurement, training and e-performance, among other things.

31. Specifications and mock-ups have been developed for over 310 operational indicators relating to Umoja processes and related non-Umoja processes, with standardized data definitions. The semantic layers are being augmented to support such reporting while the visualization is expected to leverage the technology and resources building the management dashboards. These reports will be very valuable for any service provider and service centre.

32. Umoja business intelligence data have been leveraged by many users to build dashboards for their needs, including the field missions. Although some of these parallel efforts result in duplication, they do reflect differing perspectives of multiple user communities, which are valuable now that the commonly used visualizations are standardized. Training for using business intelligence tools to produce custom reports will be continued alongside improved governance for certifying "standard reports" for global use.

33. UE2 strategic planning, budget formulation and performance management will significantly enrich business intelligence by adding programmatic reporting capabilities to Umoja when resources are linked to results-based-budgeting frameworks. The redesign of the semantic layers to support UE2 and leverage new

capabilities of the HANA upgrade will temporarily necessitate the slowing down of enhancements to current business intelligence reports when the underlying infrastructure is being re-engineered.

C. Production support

34. The Umoja support model is structured on three levels to best serve users and is designed to achieve self-sufficiency in each location and provide efficient processes and expertise for the early resolution of incidents and fulfilment of service requests. The first level of support operates locally through local process experts, well-trained service desk personnel, communities of practice and other resources, supporting the vast majority of incidents and service requests. The Umoja Support Centre, in Brindisi, and the Unite Service Desk, operating from Bangkok, Geneva, Nairobi and New York, provide the next level of support. These integrated service desks act as the single point of contact for incident or problem management and service requests, and escalate appropriate requests to experts working in global teams who specialize in business processes or technical components in Umoja.

35. Umoja-related incidents have been declining steadily, with quicker resolution at the local level and the integrated service desks, despite the release of new functionality and a major system upgrade. The Board of Auditors observed that Umoja-related incidents had been declining steadily and that the first-call resolution rate had improved from 54 per cent in 2016 to 61 per cent in 2017 (see A/73/169). The Umoja production support approach has relied on strengthening the role of local process experts to increase access to local support and reduce tickets, and to progressively strengthen the capacity of the lower tiers in order to reduce escalation to higher tiers. For the first half of 2018, the first-call resolution rate has increased to 65 per cent, enabling a significant shift in focus from production support to continuous improvements, while nevertheless remaining acutely cognizant of competing UE2 demands on process experts.

D. Continuous improvements monitoring programme

36. As reported in 2017, a programme for monitoring continuous improvements was created to ensure the sustained realization of Umoja benefits, whereby benefits are directly correlated with the degree at which the system performs at its best, and to ensure that the critical administrative functions of the Organization supported by the Umoja processes can be optimally executed to meet operational needs (see A/72/397, paras. 134–138). The monitoring approach is aimed at providing continuous insight on key operational questions, such as the number of activities executed, the number of users involved, the number of tasks needed to complete an activity, the duration and volume of tasks for the activity and performance trends for the activity. The capability to answer these questions is based on intense data analysis.

37. A comparative analysis of performance measures based on Umoja workflow data over two years, using the average duration to complete a workflow, reflects performance improvements in almost all workflows. Six out of 10 workflows with an increase in volume of more than 25 per cent show increased speed; 24 workflows in all areas have decreased in duration, 19 of them by more than 25 per cent; travel expense approval shows a 52 per cent improvement in speed despite an 11 per cent increase in volume, probably also because of a decreased number of steps; and maternity leave approval (with a large increase in the volume of transactions) and family member approval show positive improvements in all areas. Overall, of 41 processes, 16 are currently at optimal performance, 8 are approaching optimal

performance and 17 show potential for improvement through process re-engineering. Re-engineering is implemented through a formal change control procedure, described below.

Change control

38. As user adoption of the system grows and areas for improvement are identified through technical monitoring capabilities of the continuous improvements monitoring programme, new requirements and possibilities are steadily emerging. Since September 2017, the Umoja team has completed 403 requests for change. These changes are a combination of notable process improvements requested by the business, as well as less complex changes that have incrementally improved the usability and stability of the Umoja solution. Some notable process improvements include the automation of the updates to salary scales, a more intuitive employee self-service travel portal, simplified processing of travel expense reports, automation of material master changes and an improved receipt settlement process to simplify contingent-owned equipment and troop payments and processing of payments to consultants and individual contractors.

39. As part of the adoption of best practices to improve the management of Umoja software development, the project has introduced an SAP integrated monitoring tool, ChaRM, to support the complex technical environment and streamline the end-to-end process of change requests. The phased implementation of ChaRM will commence in October to transition each Umoja back-end system by December 2018. The Board of Auditors has expressed the view that the implementation of integrated monitoring through ChaRM will significantly enhance the monitoring of the implementation of change requests (see A/73/169, para. 162).

IV. Umoja Extension 2

40. Umoja Extension 2 covers 133 of 321 Umoja processes (around 41 per cent). More importantly, it significantly expands the core functionality, building on and extending beyond existing functionality. It introduces new planning, execution and reporting capabilities, touches users who so far have used only self-service and impacts multiple external user communities. The breadth of functionality being deployed also increases the complexity of the underlying hardware and software and the related skills needed to support and sustain the solution.

41. Leveraging a diverse suite of products, UE2 will bring new tools for managers to plan their programmes top-down and bottom-up, proactively track deliverables and key performance indicators, link programmatic and resource data and blend internal and external data to communicate the results of programmes to diverse stakeholders. This will support the Secretary-General's vision to harmonize reporting and represent an important step in reporting aggregated information on results, demonstrating value for money for Member States. UE2 will also facilitate management of donor relations, support resource mobilization efforts, streamline the engagement and management of implementing partners, improve the management of conferences and events, integrate end-to-end processes relating to payments to troop- and police-contributing countries and modernize several aspects of supply chain management, such as planning the demand for goods, optimizing supply and procurement decisions and tracking the transportation of goods. These are explained in detail in present section and the related timelines are shown in annex II.

42. The Umoja user base will also diversify significantly; internally, strategic planners, programme and project managers, logistics officers and resource mobilization officers will now use the system to plan, execute and report on their

functions and programme of work, while externally, many new categories of users, such as Member States and donors, implementing partners, suppliers and freight forwarders, and meeting participants will start interacting with the system through different portals.

A. Strategic planning, budget formulation and performance management

43. In his report to the General Assembly entitled "Shifting the management paradigm in the United Nations: ensuring a better future for all" (A/72/492), the Secretary-General pledged to Member States that the Secretariat would be transparent, responsible and accountable in its stewardship of the resources of the Organization and in delivering upon agreed mandates and benchmarks to ensure the implementation of all mandates. The strategic planning, budgeting and performance management solution will provide the capability to achieve this objective. It will enable planning for, and reporting on, the utilization of resources on the basis of results frameworks, including the contribution to the Sustainable Development Goals, provide risk-based dashboards for managing programme delivery and include visualization of the impact of the Organization's work.

44. UE2 will add programme planning capabilities to Umoja for the first time. Plans of different types and duration can be created with the capability to link to one another hierarchically if needed. For example, an annual results-based-budgeting framework could link to a three-year plan outline, which could link in turn to a medium-term or long-term strategic plan. Another example could be the Economic Commission for Africa linking its annual results framework to an external strategy such as Agenda 2063 for the socioeconomic transformation of the African continent over the next 50 years. Elements of results frameworks such as expected accomplishments, outputs or performance indicators may be interlinked to enable reporting on the results accomplished by utilizing resources.

45. With results frameworks or strategic plans in place, budgets could be formulated, linking resources to different elements of the plans, to provide the business justification for the proposed resources. The Secretariat currently has no established system to handle end-to-end budget planning and review processes. Budgets are largely formulated using spreadsheets or disparate department-specific systems that were built in-house. Reviews of proposed budgets and budget adjustments are done manually, making it difficult to track such adjustments at different stages of budgeting. The new Umoja budget formulation solution will harmonize processes and functionality, to the extent possible, regardless of funding source or entity. The budget solution could comprise detailed activity-based estimates if considered necessary or aggregated to suitable levels depending on the need to track and manage them during the execution phase. Iterations of such budget proposals could also be preserved to show the evolution of the proposals until they are approved.

46. When approved budgets are executed, managers can decide how much detail should be tracked and how frequently they will be monitored. They can break down their programmes into detailed portfolios and projects (if not already done during the planning stage), establish granular targets with a risk-based approach to monitoring the milestones and gather and record evidence for supporting activities completed and goals accomplished. During execution, managers will be able to track the alignment of financial and physical progress, compare planned and actual values and set up alerts for proactive interventions, among other things.

47. Organizational performance management can be strengthened by assigning deliverables and milestones to organizational units and tracking and reporting progress periodically to different stakeholders, such as Member States and donors.

Both internal and external data can be collected and synthesized to support the narratives and visualization of the goals accomplished.

48. The solution will provide an integrated end-to-end process, covering the entire life cycle of a budget, across all funding sources — assessed and voluntary contributions and internal and external cost recoveries — from planning to execution and performance reporting. As a highly integrated solution, resource utilization could be presented in real time through a programmatic perspective with strong visualization and drill-down capabilities. This supports the Secretary-General's commitment to publish comprehensive, real-time and easily accessible transaction-level information about United Nations operations, using the standards established by the International Aid Transparency Initiative.

49. After a series of workshops and some proofs of concept, the architecture for this solution was recommended by SAP in March 2017, by combining multiple SAP products and technologies. Owing to the complexity of the proposed architecture and it being the first of its kind to be implemented using SAP products, a prototype was completed at the end of July 2017, comprising all of the identified software elements, to confirm the viability of the solution architecture. Subsequently, however, SAP stated that one of the products would not be supported beyond 2020 and no alternative product was available for its functionality. In consultation with SAP, it was determined that a custom solution could be built for the missing functionality by leveraging some new SAP tools.

50. The solution has now been built in-house by leveraging standard SAP products and integrating them with one custom solution for strategic management using an SAP tool. The solution will be deployed starting from September 2018. The initial roll-out will focus on planning functionality for the peacekeeping budget for 2019/20, followed by the annual programme budget for 2020 and the voluntary contribution-funded activities for 2019. The performance management functionality will become effective successively in the second quarter of 2019 (for voluntary contribution-funded activities in 2019), July 2019 for the peacekeeping budget for 2019/20 and January 2020 for the regular budget for 2020 when the respective budgets are executed. While this solution is challenging, both functionally and technically, it also has the greatest transformational potential with results-based management capabilities.

B. Fundraising and donor relationship management

51. The Secretariat's programmes depend to varying degrees on voluntary contributions. Umoja currently covers over 23,000 contribution agreements, and the annual volume was over 4,000 agreements each in 2016 and 2017. The current Umoja functionality is provided by SAP grants (grantee) management, which covers the processes from the recording of an accounts receivable on the basis of a confirmed contribution pledge or agreement to the closure of that agreement after the discharge of the obligations under the agreement.

52. The fundraising and donor relations management solution will cover several upstream processes before contribution agreements are finalized. It will capture information with regard to donors' areas of interests (both thematic and geographical areas), the historical trend of contribution amounts and types of contributions, all of which will be used to better forecast prospective contributions and help resource mobilization officers to analyse and prioritize resource mobilization efforts. It will also provide the Organization's senior management with a comprehensive view of funding gaps vis-à-vis planned programme activities and will facilitate strategic decision-making to broaden target donor groups.

53. The solution enables appeals (campaigns) for funds, finalization of the contribution agreements, management of the interactions with donors and monitoring of cash receipts against schedules in agreements.

54. In formulating the appeal, the substantive content, including programme delivery and cost plans, will be developed as part of the strategic planning, budget formulation and performance management module described above. Performance reporting to donors on the use of their contributions will also be handled as part of the strategic planning and performance management solution.

55. The initial deployment includes donor relationship management, leveraging the United Nations enterprise solution for customer relationship management, to enable resource mobilization officers to maintain donor profiles and record their interactions with donors. The initial release has been simplified to reduce the complexity of change management, especially in the absence of a Secretariat-wide resource mobilization or donor relations strategy or common processes and tools. The subsequent release will include the functionality for managing appeals and agreements, as well as integrating with the existing grants management module in Umoja.

56. As an existing, non-SAP enterprise software platform has been leveraged for this solution, the technical solution development is led by in-house experts from the Office of Information and Communications Technology, obviating the need for knowledge transfer from contractors in the future.

57. The solution is being rolled out in September 2018 to the Economic Commission for Africa, the Department of Economic and Social Affairs, the United Nations Conference on Trade and Development, the United Nations Environment Programme, the Economic Commission for Latin America and the Caribbean, the United Nations Office on Drugs and Crime and the Mine Action Service of the United Nations. It will be extended to other entities, with additional functionality scheduled for release, in the second quarter of 2019.

C. Implementing partner management

58. The Secretariat uses implementing partners, such as United Nations system agencies, funds and programmes, governmental agencies and non-governmental organizations, to implement projects and programmes. In such partnerships, the Organization normally transfers financial resources to the partners when it is in its best interests to leverage their capacity to implement activities that support or supplement the Organization's mandated activities. In the past four years, the Secretariat has, on average, channelled about $2.0 billion annually to end beneficiaries and implementing partners and executed on average around 4,500 implementing partner agreements each year.

59. The solution will provide tools for managing the entire life cycle of the engagement of such partners. The functionality will include the creation and approval of a grantor programme, that is, a programmatic decision to engage implementing partners, the profiling of potential and existing business partners as prospective implementing partners, online applications by or on behalf of implementing partners, the assessment and selection of partners, the generation and amendment of grantor agreements and monitoring of the performance of implementing partners against project plans. It will also fully integrate with the existing Umoja finance solutions by obligating incremental funding on the basis of agreements and allowing implementing partners to request disbursements of funds and to submit expense and performance reports and audit reports, among other things.

60. When funds entrusted by Member States or donors are transferred to another party, be it an implementing partner or an end beneficiary, a core principle of accountability is that appropriate controls should exist to ensure that the funds have been used for the purposes intended. The implementing partner management solution seeks to address this requirement by streamlining the associated processes and frameworks across the Secretariat.

61. The SAP grantor management solution was identified in the third quarter of 2017 as the appropriate solution for implementing partner management after the conduct of a detailed fit-gap analysis in June 2017. While grantor management is used by many SAP customers, the Secretariat will be the first and only SAP customer to use its grantor management solution along with its grantee (or grants) management solution, which manages the Secretariat's interactions with donors. While configuring the solution in the Secretariat's software development environment, six major integration gaps were identified; following extensive collaboration with the software vendor (SAP) for nearly four months, the problems were resolved in early 2018, confirming the suitability of the solution for the Secretariat's requirements.

62. With the active participation and support of a wide range of business stakeholders, the first release will be deployed in December 2018. Being the first deployment of its kind among SAP customers, and in view of the potential for disruption to core operations for many entities funded through voluntary contributions, the Secretariat has decided to take a phased approach to the deployment, limiting it initially to three key entities: the Mine Action Service, the United Nations Environment Programme and the United Nations Human Settlements Programme (UN-Habitat). The solution will be deployed to the other entities in the second quarter of 2019, depending on the post-deployment experience. A significant change management challenge is also anticipated as the Secretariat's programme managers and project managers as well as external implementing partners, who are not active users of the existing Umoja solution, will now be required to use the system to perform their functions.

63. As a pioneering deployment, risk mitigation will include close engagement with SAP development teams, extra support during the hypercare period and the creation of a parallel track for preparations for the deployment in the second quarter of 2019. Additional functionality, relating primarily to due diligence and assessment of implementing partners, will also be included in the 2019 deployment.

D. Supply chain management

64. Supply chain management comprises planning the demand for goods, determining the sources of supply and managing the transportation, including tracking the movement of goods.

65. The Secretariat's vision for supply chain management calls for integrated, data-driven and systems-supported processes for planning, decision-making, tracking, monitoring and reporting, in order to optimize resources for effectiveness and efficiency in meeting the business requirements of a global Secretariat.

66. Implementing Umoja supply chain management requires redefining and driving the operational alignment between existing, new and restructured business processes in supply chain management. In doing so, business process and system linkages have been created that cross the traditional business silos, such as between logistics and contingent-owned equipment management in the context of transportation management, between demand planning and budget formulation and between the Organization and its vendors.

Transportation management

67. Transportation management will support the planning and execution of transportation of contingent-owned equipment and personnel (troops and police), as well as goods procured from commercial vendors. It will provide global visibility to the Organization's transportation network and operations, supported by an early warning system for delays or unexpected events. Requirements for the movement of contingent-owned equipment and personnel will be received by United Nations movement control focal points for deployment, rotation and repatriation activities as defined in memorandums of understanding established with troop- and police-contributing countries. These requirements will be uploaded to the transportation management module to automatically create the transportation requirements for planning and execution, including a transportation cost estimate and a statement of work for solicitation purposes. For goods procured from commercial vendors, transportation management will automatically use the related purchase orders or inbound deliveries to create transportation requirements.

68. When the cargo or troop movement is initiated, the solution (track and trace) has the capability to track the movement (through transportation "events"). A carrier collaboration portal will allow freight forwarders, suppliers and United Nations personnel to report these events. Direct electronic data interchange with external partners in the future may allow further automation for updates to inbound deliveries and recording events. The solution has a central cockpit with map visualization capabilities that can be accessed by inbound coordinators, transport planners, requisitioners and buyers.

69. To be effective, the solution requires the creation and enrichment of a significant amount of master data, such as mission locations, pickup and handover locations, trans-shipment points (ports, airports and consolidation hubs) and transportation lanes and zones (with associated routes and distances).

70. Transportation management and track and trace will be deployed in December 2018 and will be implemented using two SAP products, Transportation Management and Event Management, both being configured by the Umoja team. During 2019, it is expected that: (a) the scope of transactions may increase, on the basis of the lessons learned from the initial deployment; and (b) the electronic data interface may be progressively implemented as a continuous improvement.

Demand planning and supply network planning

71. Demand planning enables forecasts for procurement and logistics planning for materials and services, and can help to reduce stock holdings while ensuring the availability of materials. Supply network planning provides tools to analyse supply fulfilment strategies in terms of cost, time, quality and risk.

72. Entity and mission planners forecast gross demand for goods and services over various time horizons (strategic/long-term planning, tactical/medium-term planning and operational/short-term planning); they will leverage historical transactional data (consumption patterns) and forecasts based on statistical algorithms as the basis for capturing and refining demand for goods and services. Gross demand for goods would then be netted against available stock or supply (including inventories, open purchase orders and stock transport orders) to determine sourcing options, such as additional procurement or internal movements.

73. Such an "unconstrained" demand plan would then be rationalized against available budgets to produce a "constrained" plan. The source of supply to meet this demand would be determined on the basis of available system or local contracts, and execution against the proposed source of supply would be initiated.

74. Planning procedures are being reinforced as part of organizational restructuring and the supply chain management blueprint. United Nations Headquarters and the Global Service Centre play a lead role in driving the process, which includes regular integrated business planning meetings to review status against plans. Non-peacekeeping entities are also likely to need some adjustments to support the business transformation.

75. Software selection for demand planning and supply network planning was complicated by the decision by SAP to discontinue enhancements to its mature, on-site product and offer only a cloud-based subscription service called Integrated Business Planning. After a 10-month period of multiple engagements, SAP confirmed in July 2018 that the service could satisfy the Secretariat's business requirements and assured the Secretariat that the very small number of remaining gaps would be addressed as part of the road map for enhancements to the service. The most recent engagement also included a due diligence review of the integration of the service with the Secretariat's current Umoja solution, including identifying all associated licensing and development efforts. Negotiations for Integrated Business Planning are in progress, alongside planning for implementing a demand planning pilot, if possible, by the end of 2018.

76. The SAP engagement also confirmed the need for, and urgency of, significant data enrichment and business transformation to be undertaken to successfully implement demand planning and supply network planning. These include: (a) the granular definition of material master records to enable planning and inventory management; (b) the definition of a hierarchy structure that allows for the aggregation or disaggregation of material master records to allow for visibility and planning at related levels; and (c) data cleansing for leveraging historical consumption data from at least the past two years. Accordingly, the initial release for demand planning and supply network planning will be calibrated on the basis of the operational readiness of business processes and the enrichment of material master data, which have been facilitated by the adoption of the supply chain management blueprint, mission restructuring and detailed planning procedures released in 2017. The focus will be on a limited scope of materials for initial deployment. Preliminary indications are that the full deployment of supply chain management is likely to last through the end of 2019, while its proper adoption may take even longer.

E. Reimbursements and payments to troop- and police-contributing countries

77. Several improvements to the processes for planning, reimbursement and payment to troop- and police-contributing countries are expected, by re-engineering and standardizing processes and tools. An integrated end-to-end solution will transform the current fragmented environment into one that facilitates:

(a) The development of statements of unit requirements[1] for a formed unit, based on an agreed-upon standard unit classification and naming structure and standard unit templates to alleviate the need to plan for a bespoke unit from scratch;

(b) The preparation of memorandums of understanding without the need to manually retranscribe details from a statement of unit requirements, whereby deviations from the statement of unit requirements and subsequent justification for deviations are properly recorded during the finalization of the memorandums of understanding;

[1] Statements of unit requirements are generic requirements for a particular type of unit in a particular mission.

(c) Inspections and verification reporting of contingent-owned equipment to be undertaken through enhanced and enriched templates which include predefined and mandatory data entry points to alleviate ambiguity and subjectivity and automate the reimbursement calculation process as much as possible;

(d) Troop strength reporting to be undertaken through an easy-to-use, standard interface across all field missions, eliminating manual data entry at Headquarters;

(e) Clearer and easier linkage between a unit's shortfall in contingent-owned equipment and the corresponding deductions to be applied against personnel payments for non-functional and absent equipment (see A/68/859).

78. This solution will enable military and police planners, force generators, finance officers and logisticians to undertake core activities relating to troop- and police-contributing countries in a common system that will allow the Organization to decommission legacy custom applications, such as the government claims management system and the troop strength payment system, that are currently used to process calculations for payments to troop- and police-contributing countries, which amount to roughly 30 per cent of the Organization's peacekeeping budget; over 600 claims are processed each quarter, excluding claims for death and disability and painting and repainting, among other things.

79. The solution will automate labour-intensive processes requiring multiple data re-entry points, offering a clear link between input and output documents, and will facilitate reporting on contingent-owned equipment and personnel. The establishment of a Uniformed Capabilities Support Division within the Department of Operational Support will create opportunities to further harmonize the contingent-owned equipment and troop payment processes.

80. The design of the solution is based on over 180 functional requirements gathered through a series of interdepartmental workshops. The solution architecture envisages leveraging an existing enterprise solution platform (Siebel), integrated with SAP and Umoja for business partner management and for payment processing; the Siebel platform is already used for iNeed, fuel and rations management and contingent-owned equipment verifications.

81. While the initial priority of the solution was to replace the government claims management system, the development and deployment of upstream activities related to the statements of unit requirements and memorandums of understanding were prioritized to build a strong long-term foundation. The Department of Field Support has developed a standard unit naming and classification system and has created annex templates that will alleviate problems related to the preservation of institutional knowledge caused by the high turnover of military and police planners who are seconded for a limited duration. The focus has also been on the ability to tie statements of unit requirements to memorandums of understanding, in accordance with the recommendations of the 2017 Working Group on Contingent-Owned Equipment that the statements of unit requirements be included as an annex to the memorandums of understanding (see A/71/802, para. 44, and A/71/872, para. 9).

82. The solution is being built jointly by the Office of Information and Communications Technology and Umoja teams for the Siebel and SAP parts, respectively, and will be deployed in modules, incrementally from December 2018, with the government claims management system being decommissioned in the second quarter of 2019.

83. Additionally, this solution also lays the foundation for Force Management/Planning. The Office of Military Affairs and the Police Division remain actively engaged and involved in simplifying the military and police planning process through this solution. The evolution of the reimbursements and payments solution to

accommodate force planning and management needs will be guided by the definition of their requirements relating to the scope beyond statements of unit requirements, such as management of pledges (capabilities and readiness evaluation), selection criteria for a troop- or police-contributing country, including any national caveats, performance evaluation of troop- and police-contributing countries, assessment and advisory visits, predeployment visits and deployment schedules.

F. Conference and event management

84. The Secretariat manages thousands of conferences and events of different types, and the number of events has been growing over the past several years. The related processes are currently managed in various duty stations using different solutions; many processes are also not automated.

85. The Umoja project and the process owner (the Department for General Assembly and Conference Management) are collaborating to provide an integrated suite of applications for an end-to-end solution for managing conferences and events. The solution has to cater to different event types and cover planning and budgeting, event requests and approvals, meetings management, participant management, resource allocation, event execution and evaluation, cost recovery and accounting of event costs. In the absence of a suitable SAP solution, the focus is on a combination of new, non-SAP solutions for some processes, and evaluating and integrating existing systems into enterprise systems such as SAP and Siebel Customer Relationship Management.

86. Planning and budgeting for conferences and events will be done using UE2 strategic planning, budget formulation and performance management, being rolled out from September 2018; major conferences and events can be linked to strategic goals, including the Sustainable Development Goals, through the strategy management module.

87. A meeting participant management solution has been rolled out in Geneva using open-source software (Indico). It supports online self-service registration, accreditation approvals, event-specific websites for communicating with participants and sharing event documentation, the printing of temporary security badges and the provision of passes on mobile devices, among other things. Following an extensive evaluation of business requirements, Indico has been approved as the enterprise solution for meeting participant management, is being enhanced and migrated to the enterprise data centres and will be deployed gradually to more Secretariat entities from the fourth quarter of 2018.

88. At United Nations Headquarters, a one-stop shop solution was deployed in March 2018, enabling Member States and other clients to use a self-service web portal to request venue and meeting services in conference rooms managed by the Department for General Assembly and Conference Management. Meeting management resources and Headquarters service providers can review requests and interact with the client to clarify requests and confirm room availability and the cost of services. In less than five months, the system has processed over 1,000 ad hoc conferences and events, servicing over 100 permanent missions and over 20 regional groups.

89. Phase 2 of the solution is being developed to expand the service catalogue to include additional service providers outside the Department for General Assembly and Conference Management, such as the Facilities Management Service of the Department of Management, which provide meeting services for special events, exhibits, receptions and concerts, and to provide a single invoice for meeting services at United Nations Headquarters. The system will then be rolled out to offices away

from Headquarters and to the regional commissions and will be integrated with Umoja, including the meetings participant management system.

90. In order to deliver the desired end-to-end integrated solution, existing systems that cover meeting management processes, such as gMeets and eAPG, will be evaluated for scalability, enterprise-wide use and suitability for integration.

V. Change management

91. UE2 covers areas not previously automated, impacts internal and external users who have not used Umoja before and leverages multiple technologies with differing user experiences. Owing to its transformational potential, UE2 also requires continuing and strengthened business engagement.

A. Business engagement

92. On the basis of lessons learned, "extended business teams" have been created to increase early user adoption. An extended business team is formed at the beginning of each project to engage the business users in requirement-gathering and solution design. Besides continuing engagement during software development and testing, the team also participates in designing and developing the training content and in delivering training to users. During the hypercare and the post-deployment phases, the team will also provide production support. This early and sustained business engagement is critical for improving adoption and ensuring future ownership of the solution.

93. Change management plans have to factor in segmentation of stakeholders and differentiation of target user groups in order to tailor the plan, as appropriate, for each project and deployment. As a major transformation effort, the Umoja project will have to create or leverage a change agent network to enable business units to embrace the changes. While extended business teams and process experts could drive informal peer networks for sharing knowledge, well-respected senior managers across the Organization will have to be change ambassadors to visibly demonstrate support for, and champion, the Umoja solutions underpinning the Secretary-General's reform agenda.

B. Communications

94. The communication activities for the ongoing migrations and deployments have continued through iSeek articles, posters, release notes and updates on the Umoja website. Since UE2 will be expanding the scope of Umoja beyond administrative functions, the branding and key messages are being updated to provide a holistic and cohesive set of compelling messages. Given the transformational shift embodied in UE2 functionality, the focus of communications will continue to evolve the Umoja narrative to clearly connect the solution to the Secretary-General's reform agenda and the modernization of the United Nations, and as a key enabler for the delivery of the United Nations mission and mandates. This brand evolution would seek to visibly connect Umoja to the Secretary-General's decentralization, transparency and accountability reform initiatives, as opposed to what stakeholders perceive as efficiencies, self-service and savings.

95. A clear, consistent and compelling vision of Umoja as a reform enabler is necessary to secure sustained business commitment. Business performance metrics will be developed and communicated to establish a baseline for measuring success.

As the audience is very disparate, the communication strategy has to embrace targeted messaging, both in terms of substance and the delivery channel. The engagement of business groups through workshops and regular meetings will intensify during the UE2 deployments to ensure that all deployment entities and their local communication activities are aligned.

C. Training

96. In section XXI, paragraph 17, of its resolution 72/262 A, the General Assembly noted the steps taken to address gaps in training, stressed the importance of training for the successful implementation of Umoja and requested the Secretary-General to ensure that senior managers adopt a comprehensive and sustained approach to training and capacity development in their work units. The existing training programmes of Foundation and UE1 are tracked in the enterprise learning management system, Inspira, to address training gaps by linking training completion to Umoja enterprise roles as well as provisioning Umoja user roles on the basis of course assessments recorded. Reporting tools are also being implemented to continuously monitor the training information.

97. For the UE2 deployment, the training strategy has been revised on the basis of the lessons learned that users do not retain new information from lengthy in-classroom training after some period of time and may need additional or ongoing training once they start using Umoja more extensively. The new training approach focuses heavily on continuous self-learning and easily accessible self-contained and modularized training courses and learning materials to allow the staff to learn "just in time" to effectively deliver their work using Umoja and not depend on the availability of trainers. The training strategy also responds to feedback that just-in-time training and longer hypercare support are more helpful than courses too far ahead of deployment. The learning materials will also be adapted to iterative software development with multiple releases and provide more context-sensitive illustrations.

98. A new online learning platform, "iLearn Umoja", is being launched with a web portal in September 2018. The portal will host all UE2 training content and enable collaboration with communities of experts to share information through open online forums. It will also provide a catalogue of all courses recommended for each Umoja role and provide a direct link to all content available to support the processes and transactions performed by each role. Courses may also be downloadable on mobile devices for offline viewing and use as job aids. Trainees will be asked to rate each course after completion, to continuously improve content on the basis of its effectiveness.

99. The new Umoja learning strategy has been designed to cater to the needs of both task-oriented and expert learners. Task-oriented learning enables trainees to partake in individual courses on how to perform specific tasks in Umoja. On the other hand, expert learning is designed for trainees who need to develop Umoja-specific competencies to perform their duties. Under the expert learning approach, staff can participate in a selection of online courses, complete business scenario-based case studies and pass assessments to acquire the necessary certification within each thematic area.

100. The existing training materials of Foundation and UE1 will be gradually converted and migrated to iLearn Umoja.

VI. The Umoja business case

A. Benefits

101. Umoja is one of the most important transformation projects to be undertaken by the Secretariat. Its original business case gave prominence to its overarching value as a catalyst for end-to-end business transformation. Current and projected business needs had outpaced the technical capabilities and business functionality of the Organization's patchwork of information technology systems. The silos of information caused by fragmented data from disparate information systems had diminished transparency and control of administrative processes, weakening management oversight capability and exposing the Organization to unacceptable risks through weak financial and procurement controls and a lack of accurate global reporting.

102. Umoja has confirmed its transformative role; it has delivered substantial administrative improvements, replaced legacy systems, streamlined fragmented processes and enabled greater visibility of global data. The Board of Auditors noted in its most recent report that end-to-end process management is a significant change triggered by Umoja and that, with the impending stabilization of UE1 and deployment of UE2, there were likely to be greater opportunities for realizing qualitative benefits in the future.

103. Building on its contribution to strategic reform initiatives, such as the International Public Sector Accounting Standards and the information and communications technology strategy, Umoja is poised to support other initiatives, such as enhanced delegation of authority, enterprise risk management, the global service delivery model and the internal control framework.

104. Umoja will be a critical enabler of the Secretary-General's reforms. It provides impetus for the review of existing administrative structures, policies and processes that hinder efficiency. Embedded in the user access control feature in Umoja are clear roles and responsibilities for the execution of transactional functions, representing an opportunity to support the segregation of duties and establish a chain of accountability, when supported by the further simplification of policies and processes.

105. Umoja provides business intelligence and a robust audit trail for the Secretary-General's implementation of a more nimble and agile Organization in which decision-making authority is brought closer to the point of delivery and centralized monitoring and compliance is ensured under a strengthened accountability framework to avoid or mitigate financial, operational and reputational risks.

106. Transparency for Member States will be further enhanced through online dashboards that provide programme performance information and results of self-evaluation and lessons-learned exercises, as well as a portal presenting expenditure information extracted from Umoja in an interactive and accessible manner.

107. UE2 functionality will allow for more informed and timely executive decision-making, establishing granular targets with a risk-based approach to monitoring the delivery of programmes and mandates. Managers will be empowered with strategic performance metrics and dashboards for monitoring programme delivery that will permit visualization of the impact of the United Nations and the ability to link resources to results frameworks, including contributions to the Sustainable Development Goals.

108. Umoja is acquiring greater maturity in all locations, and a major software upgrade will further improve usability through mobile devices. The Organization has demonstrated its ability to adapt to new ways of working. Significant process

re-engineering, strong process and business ownership and robust change management will continue to deliver the necessary qualitative benefits.

109. In section XXI, paragraphs 13 and 14, of its resolution 72/262 A, the General Assembly noted the insufficient progress made in the development of a benefit realization plan and stressed the need to establish a clear and transparent record of the qualitative and quantitative Umoja benefits, taking fully into account the relevant recommendations of the Board of Auditors. The Assembly also requested the Board, through the Advisory Committee on Administrative and Budgetary Questions, to undertake a detailed verification exercise, with a view to validating a statement of quantifiable Umoja-related benefits, and to report thereon in its seventh annual progress report.

110. In its seventh annual progress report (A/73/169), the Board expressed its appreciation for the efforts made by process owners in identifying the business processes and building up a basis for the realization of quantitative benefits from year to year. The Board, after verification of the documentation, observed that the estimates of the quantum of benefits realized on account of post reduction were assessed in audit and were found to be in order. The Board also observed that it was not in a position to validate the non-post-reduction estimates for peacekeeping for 2018/19 in two specific instances relating to supply chain and information technology streams.

111. The Board also observed that there was scope for improvement in maintaining documentation and preserving institutional memory for the overall process of benefit realization and recommended that the Administration identify a coordinating division/unit as a primary process owner of benefit realization and develop a Umoja benefit realization plan with an emphasis on improvements resulting from Umoja-based business processes and monitoring of the processes to leverage further benefit realization.

Benefit realization plan

112. A Umoja benefit realization plan is being developed, taking into consideration the most recent observations and recommendations of the Board of Auditors. SAP has also been consulted for best practice for value realization among its customers. SAP has developed a value life-cycle management methodology for its customers to ensure that investments result in the business benefits and transformational goals targeted. Key components of the value realization approach include senior executive involvement; business and information technology collaboration; a process governance framework to ensure continued focus on business impact; the establishment and maintenance of the linkage between organizational vision, the benefits case, the enabling process and technological capabilities; ongoing governance of process and technology decisions; and benefit tracking and accountability.

113. The Secretariat's benefit realization plan will capture the main milestones and benefit profiles (detailed description) that form a collective set of realized and anticipated benefits. As suggested by the Board, the plan will cover measurement, evaluation, processing, reporting and implementation, and will be a centralized source of information. The process owners, who continue to be responsible for identifying the business processes and building up a basis for the realization of benefits, will use this information for their analysis and evaluation against original goals.

114. Responding to the Board's recommendation, the Business Transformation and Accountability Division of the Department of Management Strategy, Policy and Compliance will be designated as the coordinating unit responsible for: (a) monitoring the process of benefit realization; (b) engaging stakeholders from the various units and divisions; and (c) continuous monitoring.

B. Total cost of ownership

115. In section XXI, paragraph 18, of its resolution 72/262 A, the General Assembly noted the effort made to estimate, for the first time, the indirect costs and total cost of ownership of the project and requested the Secretary-General to continue to refine the estimates of the total cost of ownership of the project.

116. In relation to the total cost of ownership, the Board of Auditors observed that there was the likelihood of continuous improvements after 2019 which might involve further indirect costs, that training costs from 2020 onwards had not been included owing to difficulties in estimation, and that the estimate of annual maintenance costs from 2020 onwards would change because of the need to acquire new software licences as usage increased over time.

117. The estimates for the total cost have been updated as shown in table 1, also taking into account the Board's observations to the extent feasible.

Table 1
Total cost of ownership (estimated to 2030)

(United States dollars)

Cost category	*Period*	*Amount*
Direct costs (Umoja)[a]	2008–2019	543 741 600
Indirect costs[b]	2013–2018	127 034 077
	2019–2023[c]	19 000 000
Training costs[d]	2013–2018	77 849 752
Maintenance costs	2016–2019	118 600 000
	2020–2030	528 000 000
Total	**2008–2030**	**1 414 225 429**

[a] Includes resources for the biennium 2018–2019 proposed in the present report.
[b] Includes $29,928,168 for UE2 and $2,018,242 for continuous improvements in the period 2017–2018.
[c] Estimated at $1.2 million per year for continuous improvements, based on the experience of 2017–2018, with a 50 per cent increase for UE2 owing to functional complexity; an additional $10 million has been estimated for 2019 for UE2 deployments. This estimate is subject to a high degree of variation owing to the lack of reliable precedents.
[d] Includes $1,277,722 for training-related travel for the period 2014–2018. In respect of future training costs, the mapping of courses to functional areas is a part of deployment activities prior to go-live and will be undertaken for each UE2 project. A calculation of such indirect costs will be included in the next progress report.

118. The details of the direct costs funded from the project's budget since 2008 are presented in annex III, in response to the recommendation of the Advisory Committee on Administrative and Budgetary Questions (see A/72/7/Add.31, para. 34), endorsed by the General Assembly in its resolution 72/262 A, to provide the project expenditures by year, with a breakdown by category and item of expenditure and details on the related outputs.

VII. Reorganization of functions

119. In section XXI, paragraph 16, of its resolution 72/262 A, the General Assembly requested the Secretary-General to strengthen in-house expertise, expedite knowledge transfer from contractors and ensure knowledge retention, and provide information

thereon in the next report. In this context, the Advisory Committee on Administrative and Budgetary Questions had observed that the lack of availability of the requisite skills posed one of the highest risks to the successful completion of the project (see A/72/7/Add.31, para. 44).

120. Since 2016, the project has been organizing specialized training for its staff to ensure institutional capacity to support Umoja. From May 2016 to July 2017, 63 SAP technical training courses were completed by a combined total of 264 staff members at a cost of nearly $700,000. From August 2017 to August 2018, 283 SAP technical training courses, mostly on UE2 technology components, were completed by 67 staff at a cost of $1,019,392. This included a three-week SAP technical training workshop at United Nations Headquarters for UE2 transportation management, which was commissioned to accelerate the project team's capacity-building for the related SAP technology. The investment in training has obviated the need for a systems integrator for UE2 solutions and accelerated knowledge transfer. For the period from September 2018 to December 2019, customized SAP curricula training paths have been designed for each of the project's teams, which are more focused on specific technology components, to ensure self-sufficiency to support Umoja following UE2 implementation.

121. In its resolution 72/262 A, the General Assembly welcomed the proposals of the Secretary-General for the restructuring and gradual downsizing of the Umoja project team. While the project continues the trend initiated in 2016 towards progressively consolidating skills in fewer integrated teams, the complexities of UE2 technologies also require additional reprofiling of resources now to create and sustain capacity for developing and supporting UE2, including after implementation.

122. The Umoja team is currently composed of 72 posts. As at 31 August 2018, 59 posts were encumbered, 2 were blocked for staff on assignment, 3 were awaiting onboarding and 5 more were in different stages of the recruitment process in line with the planned reorganization, as shown in table 2.

Table 7
Status of Umoja team post incumbency and vacancies as at 31 August 2018

Status	*ASG*	*D-2*	*D-1*	*P-5*	*P-4*	*P-3*	*P-2*	*GS (PL)*	*GS (OL)*	*Total*
Encumbered										
Regular	1	–	3	9	19	13	3	5	5	58
Temporary	–	–	–	–	–	–	1	–	–	1
Subtotal	**1**	**–**	**3**	**9**	**19**	**13**	**4**	**5**	**5**	**59**
Under recruitment	–	–	–	1	1	2	1	1	2	8
Vacant	–	1	–	–	2	–	1	–	1	5
Subtotal, vacant	**–**	**1**	**–**	**1**	**3**	**2**	**2**	**1**	**3**	**13**
Total, authorized	**1**	**1**	**3**	**10**	**22**	**15**	**6**	**6**	**8**	**72**

Abbreviations: ASG, Assistant Secretary-General; GS, General Service; OL, Other level; PL, Principal level.

123. The reorganization proposed for 2019 will allow for the abolition of 11 posts, comprising 4 P-4, 4 P-3 and 3 General Service (Other level) posts, in areas in which resources can be drawn down by eliminating or redistributing work. Concurrently, similar to the 9 and 7 new posts proposed in the eighth and ninth progress reports, respectively, for technical SAP work areas, 11 new posts are now proposed for

establishment effective 1 January 2019, comprising 2 P-4, 5 P-3, 1 P-2 and 3 General Service (Principal level) posts, to ensure that suitable capacity can be created to build and sustain the new functions and technologies being introduced, as well as adjusting the capacity for existing functions.

124. Consequently, for 2019, the programme of work and related resource proposals outlined in the present report provide for a total of 72 posts, as reflected in annex IV, with continuing refinements to the organizational structure. In addition, temporary positions will be funded against other staff costs to supplement and adapt the staffing component of the project, as detailed in section IX below.

125. The 11 posts proposed for abolishment from 1 January 2019 are identified in table 3.

Table 8
Posts proposed for abolishment in 2019

Post level	*Current function work stream*	*Position number*
P-4	Finance	30077760
P-4	Finance	30077763
P-4	Finance (grants)	30079784
P-4	Travel	30077762
P-3	Travel analyst	30078024
P-3	Technical services	30077764
P-3	Technical services	30078025
P-3	Deployment coordination	30079792
GS-OL	Travel	30078028
GS-OL	Project management	30079797
GS-OL	Project management	30079800

Abbreviation: GS-OL, General Service (Other level)

126. Of the 11 new posts proposed for establishment effective 1 January 2019, 2 P-4 posts would provide technical capacity in SAP middleware and for SAP performance optimization; 5 P-3 posts would supplement capacity for critical work streams, such as for Business Planning and Consolidation, demand planning, process orchestration, solution manager and SAP BASIS/transport; 1 P-2 post would reinforce Human Capital Management/payroll; and 3 General Service (Principal level) posts would reinforce technical capacity for Business Planning and Consolidation, travel programming and HANA/business intelligence.

127. In 2017 and 2018, a total of 34 posts were abolished and 16 new posts were created. In addition, as reported in 2017, 14 posts that fell vacant between May 2016 and August 2017 were reclassified to support the reorganization. Between September 2017 and July 2018, an additional 9 posts were similarly reclassified to support the reorganization. This extensive reorganization of functions and individually tailored SAP training curricula for project staff has ensured self-sufficiency in supporting existing functionality and building the capacity to build and deploy most of the UE2 solutions without a systems integrator. An analogous effort has been implemented in

relation to the pool of contractors augmenting the capacity of the project during the intense software development phase. The reorganization proposed in the present report continues this three-year effort to create a balanced grade structure that is also distributed among the different functional and technical areas depending on underlying complexity.

VIII. Risk management

128. In section XXI, paragraphs 7, 9 and 10, of its resolution 72/262 A, the General Assembly requested the Secretary-General to identify and proactively manage current and emerging key risks to the achievement of the project's objectives and full implementation, and reiterated the importance of applying lessons learned from previous deployments to ensure smoother deployments in future and avoid extensive stabilization efforts.

129. In its seventh annual progress report, the Board of Auditors expressed its appreciation for "the trend of successive deployments with fewer problems compared with implementation of previous clusters". During 2018, after the Board's audit, the trend of smooth deployments has continued despite the diverse nature of deployments.

130. As UE2 is large in volume and scope, covers many functions in interdependent work streams and impacts many users who have not used Umoja before, lessons learned suggest that a good change management programme, including efficient training and post-deployment support, is critical for successful deployment and adoption. Stakeholder segmentation, targeted communications, a revamped training strategy, early engagement of extended business teams, more support during and immediately after go-live and adjustments to post-deployment support are some of the risk mitigations in place.

131. The Secretariat is the only SAP customer for some of the UE2 solutions, thereby increasing implementation risks. The project has been mitigating these risks through a combination of proofs of concept, extensive testing in close collaboration with the software vendor and a phased implementation.

132. UE2 significantly increases the technical complexity of Umoja in three specific ways: (a) several new SAP products have been added to the Umoja architecture; (b) the scope of non-SAP products has expanded considerably, increasing the complexity of integration and the diversity of user interfaces; and (c) Umoja will be accessed in different ways by different user groups on the basis of functionality. To mitigate the associated risks, the project has invested heavily in training its staff on the new products, added temporary capacity for software design and development by hiring contractors, conducted multiple expert reviews of the entire architecture of Umoja and upgraded some of the SAP software to improve integration with non-SAP products and strengthen the external access to Umoja.

133. While UE2 solutions are being developed concurrently to meet aggressive timelines, many have to be integrated for end-to-end process automation. For example, fundraising needs strategic planning and budget formulation to build the substantive content for appeals, event management for managing campaigns, and financial accounting and grants management for recording the contribution agreements. Managing interdependencies requires interim approaches to integration.

134. UE2 is being delivered concurrently with a reprofiling of resources to build sustainable capacity to support a system growing in complexity. Process owners are also under pressure to support *UE2 development and deployment concurrently with* a demand for continuous improvements and support for functionality already deployed. Without funding for deployment activities, departments are stretched to

support UE2, impairing the pace and quality of improvements. The Umoja project will strengthen its support for key business areas in building their capacity, especially to support cross-functional initiatives designed to improve business performance.

135. Ongoing negotiations with the software vendor present risks relating to the timely deployment of supply chain management software and future support for Human Capital Management/payroll software. Changes in licensing metrics for existing products also pose financial risks that have to be managed.

136. Changes proposed by the International Civil Service Commission usually require implementation within a very short period after their approval by the General Assembly. Contractually, such approval provides the basis for SAP to modify the software free of cost. As implementation tends to be close to General Assembly approval, workarounds by the Secretariat are necessitated, followed by retroactive implementation of software changes delivered by SAP, adding to the pressure for process experts for testing and training, among other things.

Business readiness assessment

137. In section XXI, paragraph 11, of its resolution 72/262 A, the General Assembly requested the Secretary-General in his roll-out plan for the implementation of Umoja to conduct a thorough and objective assessment of the Organization's readiness for business change in order to avoid unforeseen impacts and unnecessary additional post-implementation reviews, and to report on the findings to the Assembly.

138. The Secretary-General pointed out in his previous report that the deployment timelines were very aggressive and that a gradual roll-out in some cases might be the preferred approach to mitigate risks. The Board of Auditors had also commented (see A/71/180) that the decision to prioritize adherence to the deployment schedule above the need to ensure organizational readiness had increased the scale of the problems encountered. The Board has also highlighted the risks to UE2 deployment (see A/73/169, para. 136). The deployment plan for each UE2 solution is therefore tempered by the associated business adoption challenges, as well as the technical complexity of the solution. Past experience with Umoja deployments reinforces the value of a conservative deployment strategy with an initial roll-out of new functionality to a smaller group to assess the change management challenges before the full deployment. A slower deployment without a systems integrator for implementation obviates the need for the time-consuming and expensive transfer of knowledge and expertise later.

139. An independent consulting firm was engaged recently to assess potential gaps in the Secretariat's readiness for UE2 deployments on the basis of leading practices and lessons learned from other large, complex implementations of enterprise resource planning projects. Its recommendations were to more clearly and visibly connect Umoja to the Secretary-General's reform agenda, deploy UE2 slowly and focus strategically on functionality critical to the reform agenda, create dedicated capacity for transformation management to strengthen governance and change management, mobilize mid-level business managers as pioneers for transformational change, augment training plans to include business accountability mechanisms and secure resources for Umoja maintenance, enhancements and change management. Some of the recommendations have already been implemented; others are being evaluated and will be implemented progressively.

IX. Resource requirements for 2018–2019

140. In his ninth progress report on the enterprise resource planning project, issued in September 2017, the Secretary-General proposed $77,578,200 for 2018–2019 after taking into account unused balances from resources already approved. The Advisory Committee on Administrative and Budgetary Questions recommended that, pending the submission of the tenth progress report of the Secretary-General, as well as the next progress report of the Board of Auditors, the General Assembly approve resources in the amount of $62,062,600 (80 per cent of resources requested) to provide for the requirements of the project in 2018–2019. In its resolution 72/262 A, the General Assembly approved resources in the amount of $62,062,600 for 2018–2019 as recommended by the Advisory Committee and also decided that the total project expenditure by 31 December 2018 should not exceed $516,738,500.

141. The expenditure to the end of the biennium 2016–2017, shown in table 4, reflects the unused balance carried forward.

Table 4
Cumulative expenditures to the end of the biennium 2016–2017 (as at 31 August 2018)

(Thousands of United States dollars)

	2008–2017 approved	*2008–2017 actuals*	*2008–2017 unused balance*
Posts	104 501.6	100 951.0	3 550.6
Other staff costs	55 601.6	53 634.1	1 967.5
Consultants and experts	3 348.4	2 867.4	481.0
Travel of staff	6 879.9	6 104.2	775.7
Contractual services	223 099.2	205 050.4	18 048.8
General operating expenses	23 833.4	22 630.5	1 202.9
Supplies and materials	976.5	900.9	75.6
Furniture and equipment	47 922.8	46 838.3	1 084.5
Total	**466 163.4**	**438 976.8**	**27 186.6**

142. The unused balance at the end of 2017, estimated in the ninth progress report at $4.367 million, has increased to $27.187 million, owing firstly to the continuing reorganization of functions and adjustment of the portfolio of contractors to reduce both the numbers and the hourly rates, secondly to the decisions not to engage either a systems integrator or SAP professional services for two key UE2 projects, and thirdly to the elimination of the need for certain software licences.

143. Taking into account the actual expenditures to the end of August 2018 and the progress of the project, the estimates of the resource requirements for 2018 and 2019 are summarized by object of expenditure in table 5, and the estimated cumulative project expenditure to the end of 2019 is shown in table 6.

Table 5
Resource requirements for 2018–2019

(Thousands of United States dollars)

	2018 actuals[a]	*2018 projected*	*2019 projected*	*2018–2019 projected*	*2018–2019 approved*	*Additional resources required for 2018–2019*	*Unused balance from approved resources*	*2018–2019 resource requirements*
Posts	6 895.7	11 000.0	12 500.0	23 500.0	19 900.0	3 600.0	3 550.6	49.4
Other staff costs	3 446.5	5 760.0	8 472.0	14 232.0	9 295.5	4 936.5	1 967.5	2 969.0
Consultants	424.6	600.0	800.0	1 400.0	205.1	1 194.9	481.0	713.9
Travel of staff	208.8	500.0	725.0	1 225.0	430.9	794.1	775.7	18.4
Contractual services	19 917.0	29 414.4	30 205.0	59 619.4	30 311.3	29 308.1	18 048.8	11 259.3
General operating expenses	1 485.7	2 100.0	2 184.4	4 284.4	2 750.0	1 534.4	1 202.9	331.5
Supplies and materials	7.6	100.0	100.0	200.0	8.3	191.7	75.6	116.1
Furniture and equipment	92.6	140.0	150.0	290.0	(838.5)	1 128.5	1 084.5	44.0
Improvement of premises	14.0	14.0	–	14.0	–	14.0	–	14.0
Total	**32 492.5**	**49 628.4**	**55 136.4**	**104 764.8**	**62 062.6**	**42 702.2**	**27 186.6**	**15 515.6**

[a] Expenditure as at 31 August 2018.

Table 6
Projected total resource requirements for the Umoja project

(Thousands of United States dollars)

	2008–2019 approved	*2018–2019 additional resource requirements*	*Total*
Posts	127 673.5	49.4	127 722.9
Other staff costs	61 610.1	2 969.0	64 579.1
Consultants	3 039.6	713.9	3 753.5
Travel of staff	7 717.4	18.4	7 735.8
Contractual services	252 993.7	11 259.3	264 253.0
General operating expenses	26 997.7	331.5	27 329.2
Supplies and materials	868.7	116.1	984.8
Furniture and equipment	47 325.3	44.0	47 369.3
Improvement of premises	–	14.0	14.0
Total	**528 226.0**	**15 515.6**	**543 741.6**

Posts and other staff costs

144. The estimated requirements of $12,500,000 for 2019 will provide for salary and common staff costs for 72 posts during 2019, including 1 Assistant Secretary-General, 1 D-2, 3 D-1, 10 P-5, 20 P-4, 16 P-3, 7 P-2, 9 General Service (Principal level) and 5 General Service (Other level) posts. This structure reflects the reorganization explained in section VII above and is critical for implementing the General Assembly's direction to create sustainable capacity to support the solution and provide the appropriate leadership for the project's governance.

145. During 2019, the estimated requirements for other staff costs will total $8,472,000, reflecting a provision of $5,972,000 for 36 temporary positions for the project and $2,500,000 for additional backup to cover the continued engagement of

business and technical experts to complement the project's regular staffing component. The exact number and mix of these 36 temporary positions is adjusted during the year on the basis of evolving needs as well as availability of expertise.

146. The $2,500,000 mentioned above will be used to back up resources for business process experts, whose timely availability is critical for maintaining the schedule, and building sustainable business capacity when the project is mainstreamed. This need has been highlighted by the experience during the past year and flagged as a risk by the business readiness assessment. Owing to the significant change management entailed by the adoption of UE2, some of the resources will be assigned to support specific geographical or functional constituencies, as appropriate.

Consultants and experts, and contractual services

147. As the technical landscape has become more complex and a systems integrator is no longer utilized for UE2, the core team is being complemented by a mix of consultants with specialized expertise, and contractual services through vendors. A provision of $800,000 will be required for the continued services of up to 10 consultants during 2019, with those consultants being engaged for varying durations depending on software development and support needs, at rates ranging between $8,000 and $10,500 per month on the basis of the rates prescribed in the administrative instruction on consultants and contractors (ST/AI/2013/4).

148. Projected resource requirements for 2019 of $30,205,000 for contractual services cover a variety of products and specialist services. They include $1,500,000 for an offshore support team (of the systems integrator for Foundation and UE1), comprising a mix of fixed price and time and materials resources. An amount of $3,100,000 would cover the cost of a premium support service for resolving product-related problems, including performance issues, provided by the software vendor, SAP. As the project has taken over most of the UE2 development, it relies on two vendors to provide a team of experienced developers on-site to complement the project staff; such individuals are managed by the project team and their hourly rates could range between $120 and $144.

149. A requirement of $5,000,000 has been included for new or additional software licences during 2019, to support the usage of UE2, including maintenance for the first year after purchase in accordance with normal industry practice. This does not include the annual maintenance cost for licences already in use, as these are budgeted under the Office of Information and Communications Technology.

150. An estimated requirement of $700,000 is included within contractual services for 2019 for SAP technical training for the continued development of the SAP technical skills of the project's core staff to progressively reduce dependence on contractual resources.

Travel and training of project staff

151. UE2 projects comprise a wide array of new functionality and a very diverse group of stakeholders. Many internal users will be using Umoja for the first time (other than self-service), while the solution will now extend to different external groups, such as implementing partners, freight forwarders, donors and Member States. Change management, hypercare support, training for trainers and follow-up courses and briefings for external groups, among other things, require travel of functional experts, sometimes also backed by techno-functional expertise. Such engagement is critical for ensuring proper user adoption and mitigating post-deployment challenges.

152. The requirement of $725,000 reflects the projected demand for travel of process experts during 2019, including $175,000 to cover the travel for the specialized SAP training for staff of the project.

General operating expenses

153. Estimated requirements for general operating expenses for 2019 in the amount of $2,184,440 will provide for rent ($1,844,400 on the basis of $15,900 per person per year), service-level agreements for computer maintenance ($136,000) and communications costs ($204,040).

Supplies and materials, and furniture and equipment

154. The estimated requirements of $100,000 for office supplies and materials and $150,000 for furniture and equipment are necessary during 2019 to support the needs of the project personnel, including the replacement of equipment (laptops).

X. Summary of resource requirements and request for action by the General Assembly

A. Proposed financing of projected resource requirements for 2018 and 2019

155. In its resolution 63/262, the General Assembly endorsed the cost-sharing arrangement for the financing of the enterprise resource planning project proposed by the Secretary-General in paragraph 79 of his report on enterprise systems for the United Nations Secretariat worldwide (A/62/510/Rev.1). The approved cost-sharing arrangement is 15 per cent from the regular budget, 62 per cent from the support account for peacekeeping operations and 23 per cent from the special accounts for programme support costs.

156. The Secretary-General requests that the resource requirements necessary to complete the planned activities to be undertaken during 2018 and 2019 be approved by the General Assembly. The proposed financing of the requirements would be apportioned in accordance with the approved cost-sharing arrangement, as illustrated in table 7.

Table 12
Summary of proposed resource requirements for 2018 and 2019, by source of funding

(Thousands of United States dollars)

Source of funds	*Approved resources*	*Total requirements*	*Proposed additional resource requirements*	*Percentage*
Regular budget	79 233.9	81 372.7	2 138.8	15
Support account for peacekeeping operations	327 500.1	337 257.3	9 757.2	62
Extrabudgetary	121 492.0	125 111.6	3 619.6	23
Total	**528 226.0**	**543 741.6**	**15 515.6**	**100**

B. Recommended actions to be taken by the General Assembly

157. **The General Assembly is requested:**

(a) To take note of the progress made in the implementation of Umoja since the issuance of the ninth progress report;

(b) To approve the resource requirements of the project until 31 December 2019, as presented in table 5, and based on the reorganization presented in section VII;

Programme budget

(c) To approve an amount of $2,138,800 under the programme budget for the biennium 2018–2019 under component 1, Office of the Under-Secretary-General, of subsection 29A, Department of Management Strategy, Policy and Compliance, representing the additional regular budget share for the Umoja project costs until 31 December 2019;

Support account for peacekeeping operations

(d) To note that resource requirements in the amount of $9,757,200 will be included in the subsequent requirements for the support account for peacekeeping operations for the financial period from 1 July 2019 to 30 June 2020;

Extrabudgetary resources

(e) To note that requirements in the amount of $3,619,600 will be funded from extrabudgetary resources in the financial period from 1 January to 31 December 2019.

Annex I

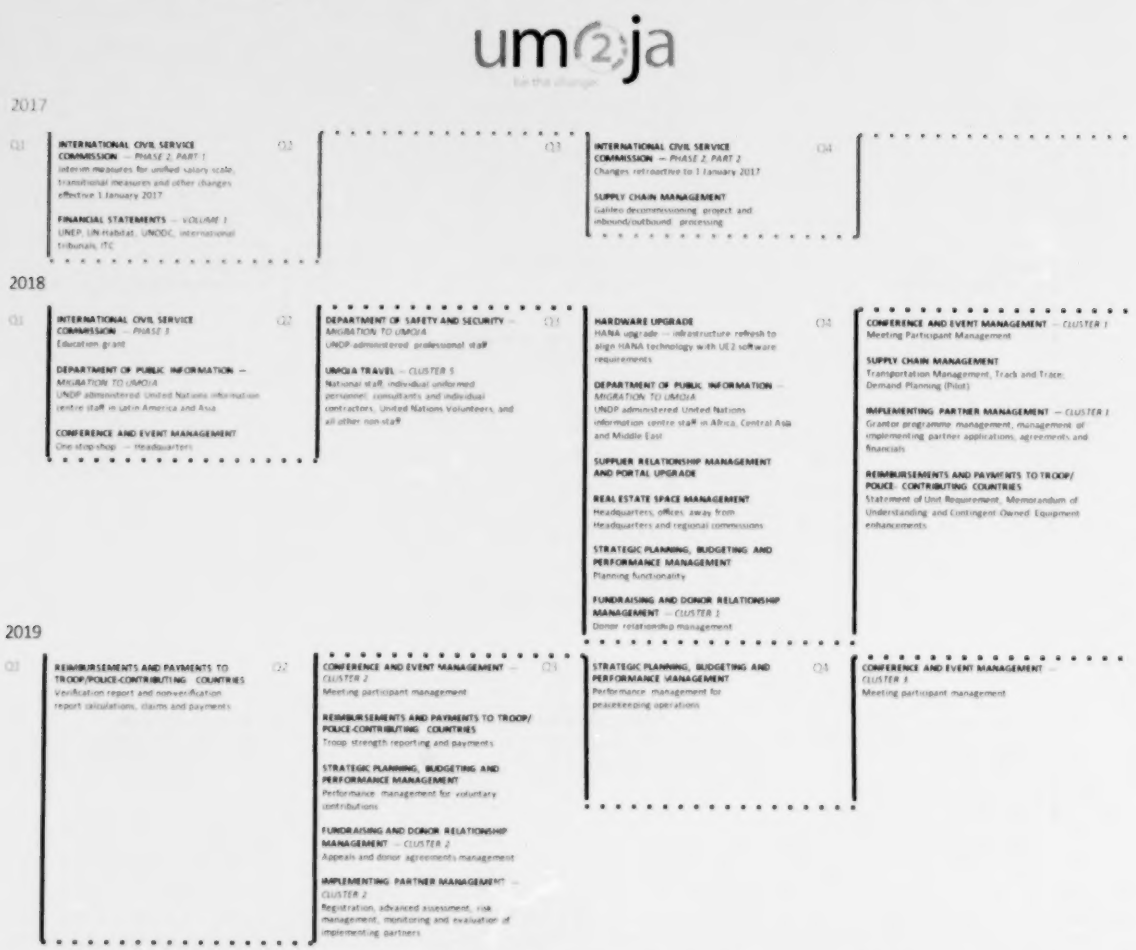
Umoja deployment timeline, 2013–2016

2013
JUL
PILOT — FOUNDATION
UNIFIL, UNSCOL
NOV
CLUSTER 1 — FOUNDATION
Peacekeeping missions
2014
MAR
CLUSTER 2 — FOUNDATION
Special political missions
JUL
PILOT — INTEGRATION
MINUSTAH
REAL ESTATE
United Nations entities in New York, Nairobi and Addis Ababa
NOV
REAL ESTATE
All remaining United Nations entities
2015
JUN
CLUSTER 3 — INTEGRATION
OCHA (global), United Nations entities in Nairobi (UNON, UNEP, UN-HABITAT), 1 regional commission (ESCAP), UNAKRT
NOV
CLUSTER 4 — INTEGRATION
Headquarters, United Nations Offices at Geneva and Vienna, ECA, ESCWA, ECLAC, ECE, international tribunals
CLUSTER 4 — EXTENSION 1
International staff in peacekeeping missions and special political missions
2016
JUL
SERVICE DELIVERY
Peacekeeping missions and special political missions
INTERNATIONAL CIVIL SERVICE COMMISSION — PHASE 1, PART 1
Changes to relocation-related elements, field allowances and benefits
AUG
FINANCIAL STATEMENTS — VOLUME II
Peacekeeping operations
NOV
CLUSTER 5 — EXTENSION 1
National staff and individual uniformed personnel in peacekeeping missions and special political missions
INTERNATIONAL CIVIL SERVICE COMMISSION — PHASE 1, PART 2
New mobility incentive, discontinuation of the non-removal allowance

Abbreviations: ECA, Economic Commission for Africa; ECE, Economic Commission for Europe; ECLAC, Economic Commission for Latin America and the Caribbean; ESCAP, Economic and Social Commission for Asia and the Pacific; ESCWA, Economic and Social Commission for Western Asia; OCHA, Office for the Coordination of Humanitarian Affairs; UNAKRT, United Nations Assistance to the Khmer Rouge Trials; UNEP, United Nations Environment Programme; UN-Habitat, United Nations Human Settlements Programme; UNIFIL, United Nations Interim Force in Lebanon; UNSCOL, Office of the United Nations Special Coordinator for Lebanon.

Annex II

Umoja deployment timeline, 2017–2019


umoja
2017
Q1
INTERNATIONAL CIVIL SERVICE COMMISSION — PHASE 2, PART 1
Interim measures for unified salary scale, transitional measures and other changes effective 1 January 2017
FINANCIAL STATEMENTS — VOLUME 1
UNEP, UN-Habitat, UNODC, International Tribunals, ITC
Q2
Q3
INTERNATIONAL CIVIL SERVICE COMMISSION — PHASE 2, PART 2
Changes retroactive to 1 January 2017
SUPPLY CHAIN MANAGEMENT
Galileo decommissioning: project and inbound/outbound processing
Q4
2018
Q1
INTERNATIONAL CIVIL SERVICE COMMISSION — PHASE 3
Education grant
DEPARTMENT OF PUBLIC INFORMATION — MIGRATION TO UMOJA
UNDP administered United Nations information centre staff in Latin America and Asia
CONFERENCE AND EVENT MANAGEMENT
One stop shop — Headquarters
Q2
DEPARTMENT OF SAFETY AND SECURITY — MIGRATION TO UMOJA
UNDP administered professional staff
UMOJA TRAVEL — CLUSTER 5
National staff, individual uniformed personnel, consultants and individual contractors, United Nations Volunteers, and all other non-staff
Q3
HARDWARE UPGRADE
HANA upgrade — infrastructure refresh to align HANA technology with UE2 software requirements
DEPARTMENT OF PUBLIC INFORMATION — MIGRATION TO UMOJA
UNDP administered United Nations information centre staff in Africa, Central Asia and Middle East
SUPPLIER RELATIONSHIP MANAGEMENT AND PORTAL UPGRADE
REAL ESTATE SPACE MANAGEMENT
Headquarters, offices away from Headquarters and regional commissions
STRATEGIC PLANNING, BUDGETING AND PERFORMANCE MANAGEMENT
Planning functionality
FUNDRAISING AND DONOR RELATIONSHIP MANAGEMENT — CLUSTER 1
Donor relationship management
Q4
CONFERENCE AND EVENT MANAGEMENT — CLUSTER 1
Meeting Participant Management
SUPPLY CHAIN MANAGEMENT
Transportation Management, Track and Trace, Demand Planning (Pilot)
IMPLEMENTING PARTNER MANAGEMENT — CLUSTER 1
Grantor programme management, management of implementing partner applications, agreements and financials
REIMBURSEMENTS AND PAYMENTS TO TROOP/POLICE CONTRIBUTING COUNTRIES
Statement of Unit Requirement, Memorandum of Understanding and Contingent-Owned Equipment enhancements
2019
Q1
REIMBURSEMENTS AND PAYMENTS TO TROOP/POLICE-CONTRIBUTING COUNTRIES
Verification report and nonverification report calculations, claims and payments
Q2
CONFERENCE AND EVENT MANAGEMENT — CLUSTER 2
Meeting participant management
REIMBURSEMENTS AND PAYMENTS TO TROOP/POLICE-CONTRIBUTING COUNTRIES
Troop strength reporting and payments
STRATEGIC PLANNING, BUDGETING AND PERFORMANCE MANAGEMENT
Performance management for voluntary contributions
FUNDRAISING AND DONOR RELATIONSHIP MANAGEMENT — CLUSTER 2
Appeals and donor agreements management
IMPLEMENTING PARTNER MANAGEMENT — CLUSTER 2
Registration, advanced assessment, risk management, monitoring and evaluation of implementing partners
Q3
STRATEGIC PLANNING, BUDGETING AND PERFORMANCE MANAGEMENT
Performance management for peacekeeping operations
Q4
CONFERENCE AND EVENT MANAGEMENT — CLUSTER 3
Meeting participant management

Abbreviations: ITC, International Trade Centre; UNDP, United Nations Development Programme; UE2, Umoja Extension 2; UNEP, United Nations Environment Programme; UN-Habitat, United Nations Human Settlements Programme; UNODC, United Nations Office on Drugs and Crime.

Annex III

Umoja project expenditures and deliverables

(United States dollars)

Year	*Project phase*	*Outputs delivered*	*Month*	*Staff costs*	*Non-staff costs*	*Total*
2008	Project initiation	Ramp-up activities	June	1 005 581	15 988	1 021 569
		Onboarding of new staff	December			
	Process design	Initiation of outline of project scope and work on preparation phase	December	414 063	125 713	539 775
	Infrastructure	Hardware	June		951 800	951 800
Total				**1 419 643**	**1 093 501**	**2 513 145**
2009	Project initiation	Preparation phase completed	February	2 968 503	258 028	3 226 531
		Analysis of implementation strategies, scenarios, costing models, benefits analysis for business blueprint	July			
	Process design	Finalized process documentation, inventory of existing systems, documentation of conclusions from high-level design workshops, costing models for implementation	July	1 222 325	9 129 502	10 351 827
		Initial design complete; produced the preliminary business case and high-level design	July			
	Infrastructure	Hardware	June		1 608 197	1 608 197
Total				**4 190 828**	**10 995 727**	**15 186 555**
2010	Process design	First draft of design documents was completed, produced a set of re-engineered processes	May	7 460 743	25 401 049	32 861 792
		Completed detailed design of future business processes. Produced an updated benefits case. Launched change management and communication programmes. Analysed potential changes to the Organization's rules, regulations, policies and procedures to optimize business processes	August			
	Infrastructure	Software licences and maintenance			19 765 923	19 765 923
Total				**7 460 743**	**45 166 972**	**52 627 715**
2011	Process design	Completed the enterprise structure of the enterprise resource planning system	August	13 809 976	23 845 325	37 655 301
		Finalized the documentation, prototyping of the design of "to-be" processes	August			
		Database of all existing information systems for possible replacement/integration with Umoja created	August			
	Infrastructure	Software licences and maintenance	January		4 745 257	4 745 257
	Infrastructure	Hardware	June		5 680 827	5 680 827
Total				**13 809 976**	**34 271 409**	**48 081 385**

Year	*Project phase*	*Outputs delivered*	*Month*	*Staff costs*	*Non-staff costs*	*Total*
2012	Process design	Design of Foundation processes completed	August	3 509 825	7 343 234	10 853 059
		Design of integration processes ongoing				
	Infrastructure	Software licences and maintenance	January		7 241 206	7 241 206
	Infrastructure	Hardware	June		4 256 150	4 256 150
	Foundation	Onboarded systems integrator	July	4 992 612	18 202 914	23 195 526
		Completed design of Foundation processes	August			
		Identified pilot sites. Analysed and reviewed timeline				
	Integration	Review components of Integration. Revised timeline with pilot and successive functional subsets	August	8 347 418	2 484 126	10 831 544
Total				**16 849 855**	**39 527 630**	**56 377 485**
2013	Process design	Design of integrated solution in progress		5 051 595	9 421 164	14 472 760
	Infrastructure	Software licences and maintenance	January		11 101 130	11 101 130
	Infrastructure	Hardware	October		7 526 982	7 526 982
	Foundation	Training materials developed, training provided	March	7 185 731	25 278 059	32 463 789
		Completed Umoja Foundation solution build and test	May			
		Pilot at UNIFIL and UNSCOL	July			
		Cluster 1: Foundation deployed to all peacekeeping missions	November			
	Integration	Designing, building and testing integrated solution (in progress)	December	12 014 211	3 309 143	15 323 354
Total				**24 251 537**	**56 636 478**	**80 888 015**
2014	Process design	Design of integration solution complete	March		950 794	950 794
	Infrastructure	Software licences and maintenance	January		290 956	290 956
	Infrastructure	Hardware	June	965 358	4 512 443	5 477 801
	Foundation	Cluster 2: Foundation deployed to all special political missions; real estate deployed to Headquarters, UNON, ECA	March		6 026 253	6 026 253
		Real estate deployed to the entire Secretariat	November			
	Continuous improvement and production support	Production support readiness activities completed for Cluster 2: Foundation go-live for hypercare and production support	March	11 825 637	18 675 107	30 500 744
		Production support readiness activities completed for MINUSTAH pilot go-live for hypercare and production support	July			
	Integration	Training materials developed, training provided	May	11 342 958	14 775 431	26 118 388
		Completed Umoja integration solution build and testing (human resources and travel processes)	May			
		Extension 1 Pilot deployed to MINUSTAH	July			
Total				**24 133 952**	**45 230 985**	**69 364 937**

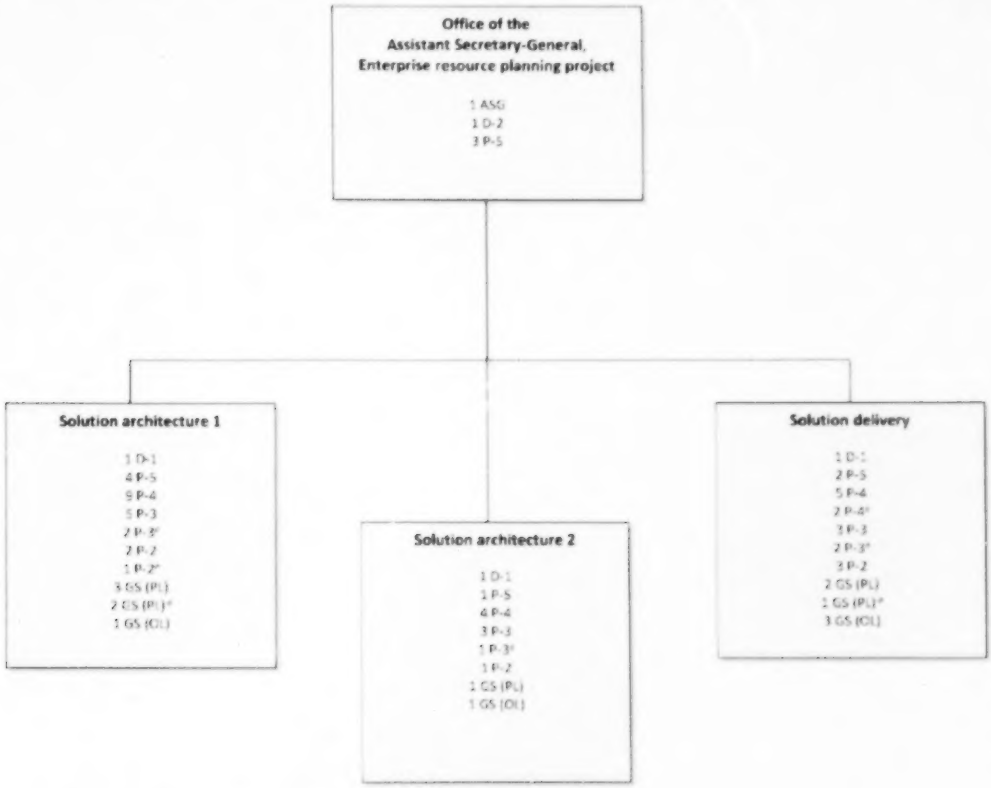
Year	*Project phase*	*Outputs delivered*	*Month*	*Staff costs*	*Non-staff costs*	*Total*
2015	Process design	Review and updates to design solution	February		278 762	278 762
	Infrastructure	Software licences and maintenance	January		3 401 360	3 401 360
	Infrastructure	Hardware	December	848 147	3 072 387	3 920 533
	Foundation	Master data governance and business intelligence reports issues addressed	July		1 766 828	1 766 828
	Continuous improvement and production support	Production support readiness activities completed for cluster 3: Foundation and Extension 1 go-live for hypercare and production support	June	10 389 795	7 141 214	17 531 009
		Production support readiness activities completed for Cluster 4: Foundation and Extension 1 go-live for hypercare and production support	November			
	Integration	Cluster 3: Foundation and UE1 deployed to OCHA, UNON, UNEP, UN-Habitat, ESCAP and UNAKRT.	June	9 965 722	5 289 350	15 255 071
		Cluster 4: Foundation and UE1 deployed to Headquarters, UNOG, UNOV, ECA, ESCWA and ECLAC, ECE, and international tribunals	November			
		Cluster 4: UE1 deployed to special political and peacekeeping missions	November			
Total				**21 203 663**	**20 949 900**	**42 153 563**
2016	Infrastructure	Hardware	June	842 376	2 308 129	3 150 505
	Continuous improvement and production support	Service delivery deployed to special political and peacekeeping missions	July	14 838 146	10 202 600	25 040 746
		Provided global production support, enhanced transaction system, self-service portal and business intelligence. Training focused on building local capacity	September			
	Integration	Financial statements (Vol. II)	August	3 369 504	9 609 492	12 978 996
		Implemented business-to-business exchange with office depot	October			
		Cluster 5: UE1 implemented for national staff and individual uniformed personnel in special political and peacekeeping missions	November			
	UE2	UE2 Implementation strategy prepared	August	1 895 346	1 435 362	3 330 708
		Processes reviewed to assess effort and dependencies in building and deployment phases	July			
		Reprofiling of resources commenced	July			
Total				**20 945 372**	**23 555 583**	**44 500 955**

Year	*Project phase*	*Outputs delivered*	*Month*	*Staff costs*	*Non-staff costs*	*Total*
2017	Infrastructure	Software licences and maintenance	January		1 631 250	1 631 250
	Infrastructure	Hardware	August		86 100	86 100
	Continuous improvement and production support	Cluster 3 and cluster 4 Umoja post-implementation review task force items resolved	May	107 148	450	107 598
	Integration	Financial statements (Vol. I), UNEP, UN-Habitat, UNODC, international tribunals, ITC	February	13 825 136	4 251 084	18 076 220
		Centrally maintained tables interface with ICSC phase 1 completed	July			
		Financial statements (Vol. II) post regression testing completed	August			
	UE2	Supply chain management (phase 1) completed — Galileo decommissioning Project	September	2 410 596	5 431 318	7 841 914
		Design and development of UE2: budget formulation, fundraising, implementing partners, payments to troop/police-contributing countries, conference and events management	Ongoing			
Total				**16 342 880**	**11 400 202**	**27 743 082**
2018	Infrastructure	Software licences and maintenance	January		2 273 332	2 273 332
	Infrastructure	Hardware	June		994 500	994 500
	Continuous improvement and production support	System enhancements deployed to streamline implementation of salary scale changes, changes to dependency allowance and language allowances; user-friendly travel solution upgrade	June	466 985	306 694	773 679
		UNDSS field-based international staff on UNDP appointments transitioned to Secretariat appointments and migrated to Umoja	June			
		UNDP-administered staff in the UNICs were migrated to Umoja	February, July			
	Integration	Umoja travel solution was deployed to all peacekeeping and special political missions, to support travel management of more than 120,000 new personnel	June	3 775 809	4 792 669	8 568 478
		Real-estate space management deployed in Headquarters, UNOG and ECLAC, as well as in UNOV, UNON, ECA, ESCAP, and ESCWA	September			
	UE2	Design, build and test of UE2 products	Ongoing	6 099 399	13 783 066	19 882 465
Total				**10 342 193**	**22 150 261**	**32 492 454**

Abbreviations: ECA, Economic Commission for Africa; ECE, Economic Commission for Europe; ECLAC, Economic Commission for Latin America and the Caribbean; ESCAP, Economic and Social Commission for Asia and the Pacific; ESCWA, Economic and Social Commission for Western Asia; ICSC, International Civil Service Commission; ITC, International Trade Centre; MINUSTAH, United Nations Stabilization Mission in Haiti; OCHA, Office for the Coordination of Humanitarian Affairs; UNAKRT, United Nations Assistance to the Khmer Rouge Trials; UE1, Umoja Extension 1; UE2, Umoja Extension 2; UNDP, United Nations Development Programme; UNDSS, Department of Safety and Security; UNEP, United Nations Environment Programme; UN-Habitat, United Nations Human Settlements Programme; UNIFIL, United Nations Interim Force in Lebanon; UNODC, United Nations Office on Drugs and Crime; UNOG, United Nations Office at Geneva; UNON, United Nations Office at Nairobi; UNOV, United Nations Office at Vienna; UNSCOL, Office of the United Nations Special Coordinator for Lebanon.

Annex IV

Organizational structure and post distribution for 2019



Abbreviations: ASG, Assistant Secretary-General; GS, General Service; OL, Other level; PL, Principal level.
* New post.